

25478

S/020/61/139/001/010/018  
B104/B231

Matrix element of the reaction...

and

$$\sigma_1(s_1) = \frac{k_{12}}{\sqrt{k_{12}^2 + \mu^2} + \sqrt{k_{12}^2 + M^2}} A_1 t_3^+ (\pi^+ n \rightarrow \pi^+ n); \quad (6a)$$

$$\sigma_2(s_2) = \frac{k_{12}}{\sqrt{k_{12}^2 + \mu^2} + \sqrt{k_{12}^2 + M^2}} (A_1 t_3^+ (\pi^+ n \rightarrow \pi^+ n) + A_2 t_3^+ (\pi^+ n \rightarrow \pi^0 p)); \quad (6b)$$

$$\sigma_3(s_3) = \frac{k_{12}}{2\sqrt{k_{12}^2 + \mu^2}} \left\{ A_1 t_3^+ (\pi^+ \pi^+ \rightarrow \pi^+ \pi^+) + \frac{1}{2} A_2 t_3^+ (\pi^+ \pi^+ \rightarrow \pi^0 \pi^0) \right\}. \quad (6c)$$

$A_1(s_1^0 s_2^0 s_3^0)$  is the amplitude of the reaction (1) with  $W = (M + 2\mu)^2$ . In addition  $1/(x' - x - i\epsilon) = \mathcal{P}/(x' - x) + i\pi\delta(x' - x)$ , where  $\mathcal{P}$  is the symbol of the principal value. Due to the fact that the relation  $s = s^0 \sim k^2$  applies to the expression figuring under the integral of (5), the integral terms can be neglected and

$$A_1(s_1 s_2 s_3) = A_1(s_1^0 s_2^0 s_3^0) + i[\sigma_1(s_1) + \sigma_2(s_2) + \sigma_3(s_3)].$$

Card 5/7

25478

S/020/61/139/001/010/018  
B104/B231

Matrix element of the reaction...

is obtained. Similar expressions can also be obtained for the reactions (2) and (3). (7) not only determines the amount of matrix elements but also their phase. The expression (4) leads automatically to correct expressions for the matrix elements with an accuracy up to the terms of second order of the relative moments. The authors thank A. A. Logunov and L. D. Solov'yev for discussions. There are 1 figure and 2 non-Soviet-bloc references.

ASSOCIATION: Matematicheskii institut im. V. A. Steklova Akademii nauk SSSR (Institute of Mathematics imeni V. A. Steklov Academy of Sciences USSR)

PRESENTED: February 28, 1961, by N. N. Bogolyubov, Academician

SUBMITTED: February 23, 1961

Card 6/7

**"APPROVED FOR RELEASE: 03/15/2001**

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ADDITIONAL INFORMATION

53

APPROVED FOR RELEASE: 03/15/2001

CIA-RDP86-00513R001964020003-6"

ZAV'YALOV, O.I.

High-energy asymptotic behavior of converging Feynman diagrams.  
Zhur. eksp. i teor. fiz. 47 no.3:1099-1107 S '64. (MIRA 17:11)

1. Matematicheskiy Institut AN SSSR.

ZAV'YALOV, O.I.; POLIVANOV, M.K.; KHORUZHIIY, S.S.

Analytic properties of the amplitude in the quasi-potential scattering problem. Zhur. eksp. i teor. fiz. 45 no.5:1654-1659 N '63. (MIRA 17:1)

1. Matematicheskiy institut AN SSSR.

KARPOV, Yu.A.; GLAVIN, O.G.; ZAV'YALOV, O.V.; IVANOVA, R.V.

Evaluation of the sensitivity of oxygen detection in niobium  
by the vacuum melting method. Zav.lab. 31 no.10:1190-1191 '65.  
(MIRA 19:1)

1. Gosudarstvennyy nauchno-issledovatel'skiy i proyektnyy  
institut redkometallicheskoj promyshlennosti.



ZAV'YALOV, P.

Eliminate shortcomings more rapidly. Posh.delo 5 no.1:6-7 Ja  
'59. (MIRA 11:12)

1. Nachal'nik Upravleniya pozharney okhrany Kazakhskoy SSR.  
(Kazakhstan--Fire prevention)

ZAV'YALOV, P.

These problems must be solved. Pozh. delo 4 no.1:12-13 Ja '58.  
(MIRA 11:1)

1. Nachal'nik Upravleniya pozharney okhrany Kazakhskoy SSR.  
(Kazakhstan--Fire prevention)

ZAV'YALOV, P.Y.; PERFIL'YEVA, Ye.M.

Tumors of the carotid gland. Stomatologiya 40 no.2:91-92 Mr-Apr  
'61. (MIRA 14:5)

1. Iz otolaringo-stomatologicheskogo otdeleniya (zav. Ye.I.Shelkov)  
Barnauk'skoy gorodskoy bol'nitsy (glavnyy vrach - zasluzhenyy vrach  
RSFSR R.I. Vas'kova). (CAROTID BODY--TUMORS)

BORYCHEV, Nikolay Ivanovich; ZAV'YALOV, Pavel Fedorovich; DUBROVSKIY,  
H.D., otv.red.; OSVAL'D, E.Ya., red.izd-va; BERESLAVSKAYA, L.Sh.,  
tekhn.red.

[Work and relaxation of miners in the U.S.S.R.] Trud i otdykh  
shakhterov v SSSR. Moskva, Gos.nauchno-tekhn.izd-vo lit-ry po  
gornomu delu, 1960. 53 p. (MIRA 13:12)  
(Miners) (Hours of labor)

GURZHIY, Petr Kondrat'yevich; ZAV'YALOV, P.F., otv.red.; VINOGRADOVA,  
G.V., red.izd-va; IL'INSKAYA, G.M., tekhn.red.

[Instruction for a stoper miner in flat and inclined deposits]  
Pamiatka gornorabochego ochistnogo zaboia na pologikh i naklonnykh  
plastakh. Moskva, Gos.nauchno-tekhn.izd-vo lit-ry po gornomu delu,  
1959. 133 p. (MIRA 14:2)  
(Stoping (Mining))

BORYCHEV, N.I.; ZAV'YALOV, P.F.; DVORNIKOV, I.S., retsenzents;  
ZHELEZNOV, B.I., retsenzents; POKROVSKAYA, I.M., red.izd-  
va; PROZOROVSKAYA, V.L., tekhn. red.; BOLDYREVA, Z.A.,  
tekhn. red.

[Handbook on labor safety in coal mines] Okhrana truda na ugol'-  
nykh shakhtakh; spravochnoe posobie. Izd.2., perer. i dop. Mo-  
skva, Gosgortekhnizdat, 1963. 427 p. (MIRA 16:7)

1. Profsoyuz rabochikh ugol'noy promyshlennosti. TSentral'nyy  
komitet. 2. Otdel okhrany truda TSentral'nogo komiteta prof-  
soyuza rabochikh ugol'noy promyshlennosti (for Borychev, Zav'yalov).  
(Coal mines and mining--Safety measures)

ZAV'YALOV, P.S.

Specialization in the tractor industry abroad. Trakt. i sel'khozmasb.  
no.11:46-48 N '64. (MIRA 18:1)

DROZDOV, L.N.; ZAV'YALOV, P.F.; FIDELEV, A.A.; BORYCHEV, N.I., red.;  
GOLUBYATNIKOVA, G.S., red.izd-va; BOLDYREVA, Z.A., tekhn.red.

[Work clothes for workers and employees in the enterprises of  
the coal and the slate industries] Spetsodezhda dlia rabochikh  
i sluzhashchikh predpriatii ugol'noi i slantsevoi promyshlen-  
nosti. Moskva, Gosgortekhzdat, 1963. 331 p. (MIRA 16:3)

1. Profsoyuz rabochikh ugol'noy promyshlennosti. Tsentral'nyy  
komitet.

(Coal mines and mining) (Work clothes) (Slate)



BORYCHEV, N.I.; ZAV'YALOV, P.F.; KOMOGORTSEV, N.I., otv.red.; OSVAL'D,  
E.Ya., red.izd-va; KONDRAT'YEVA, M.A., tekhn.red.

[Handbook on work safety in coal mining] Spravochnik po okhrane  
truda v ugol'noi promyshlennosti. Moskva, Gos.nauchno-tekhn.  
izd-vo lit-ry po gornomu delu, 1960. 302 p.

(MIRA 13:7)

1. Soyuz rabochikh ugol'noy promyshlennosti. Tsentral'nyy komitet.
2. Otdel okhrany truda Tsentral'nogo komiteta profsoyusa ugol'noy  
promyshlennosti (for Borychev, Zav'yalov).

(Coal mines and mining--Safety measures) (Coal miners)

COMMON ELEMENTS	COMMON VARIANTS INDEX
<p><i>Co</i></p>  <p>Theoretical calculation of the yield of butter. P. O. Zav'nyy. <i>Molochko-Masloprod'stvo</i>, Prom. 1939, No. 2.</p> <p>R.V.—The yield of butter may be rated from the following formula: <math>K_m = [K_c Z_k - K_b(Z_k + A)] / Z_{km}</math>, where <math>K_m</math> is the yield of butter, <math>K_c</math> is the amt. of cream, <math>Z_k</math> the fat content of the cream, <math>K_b</math> the amt. of buttermilk, <math>Z_k</math> the fat in buttermilk, <math>Z_{km}</math> the fat in butter and <math>A</math> is the loss of fat in processing. The loss is taken as 0.14% of the buttermilk for a fat content of 28-32% in the cream. The loss factor may be omitted.</p> <p>B. Z. Kamikh</p>	<p>12</p>
<p>ASH-SLA METALLURGICAL LITERATURE CLASSIFICATION</p>	
FROM SYMBOLIC      THROUGH HIGH ONLY ONE      SPECIALTY ONE      FROM SYMBOLIC      SPECIALTY ONE ONLY TWO	
SYMBOL #2	SYMBOL #1
AL NI AV NO JS	CA CR CO CU FE HI IN IR LE MG MN MO NI OB OS PA PI PL PR RE S SE SI SN SO ST Tl VA W Y Zn

111 AND 112 (1951) PROCESSES AND PROPERTIES INDEX

7

*Rapid determination of sulfur in blast-furnace slags.*  
 R. N. Gubrivatui and J. S. Zay'yanov—Zavolzhysk Lab.  
 8, 812-3 (1934).—The S in the slags is present as CaS  
 mixed with a little FeS and mns. traces of  $\text{CaSO}_4$ . On  
 solution in  $\text{H}_2\text{O}$ , it reacts thus:  $\text{CaS} + 2\text{H}_2\text{O} \rightarrow \text{Ca(OH)}_2$   
 $+ \text{H}_2\text{S}$ ;  $2\text{CaS} + 2\text{H}_2\text{O} \rightarrow \text{Ca(OH)}_2 + \text{CaSH}_2$ ;  $2\text{CaS} +$   
 $2\text{O}_2 + \text{CO}_2 \rightarrow \text{CaCO}_3 + \text{CaSO}_4$ ; and  $\text{CaSO}_4 + 0.5\text{O}_2 \rightarrow$   
 $\text{CaSO}_4 + \text{S}$ . Tests showed that the cause of the un-  
 satisfactory results obtained in direct titration of slag  
 is the oxidation of S by I in alk. solns. (from the hydrolysis  
 of CaS and the presence of about 1.5% of CaO in the slags),  
 and that this reaction is eliminated by working in an acid  
 medium:  $\text{CaS} + 2\text{HCl} \rightarrow \text{H}_2\text{S} + \text{CaCl}_2$ ;  $\text{H}_2\text{S} + \text{I}_2 \rightarrow$   
 $2\text{HI} + \text{S}$ . Add to 20-60 cc.  $\text{H}_2\text{O}$  (boiled and cooled)  
 10 cc. of titrated I soln., 3 cc. of  $\text{HCl}$  (d. 1.10) and 1 g.  
 of the slag, shake, add 10-12 cc. of concd.  $\text{HCl}$ , close the  
 flask with a cork, shake 2-3 min. and titrate back the  
 excess I with  $\text{Na}_2\text{S}_2\text{O}_3$ . The results are accurate and agree  
 closely with values obtained by the Schullie iodometric  
 method.  
 Chas. Blanc

ASB-31A METALLURGICAL LITERATURE CLASSIFICATION

140000 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

ALEKSANDROVSKIY, D.Ya., kand. tekhn. nauk; PARSCHNIK, S.A., kand. tekhn. nauk; ZAV'YALOV, P.S., inzh.

Aerodynamic universal stand for investigating the models of hydraulic torque converters and elements of their flow area. Gidr. mash. i gidr. no.1:213-215 '65. (MIRA 18:12)

1. Khar'kovskiy politekhnicheskii institut.

PARSHCHIK, S.A., kand. tekhn. nauk; ZAV'YALOV, P.S., inzh.

Effect of the speed of a pump runner and viscosity of the working fluid on the energy indices of a hydraulic torque converter.  
Gidr. mash. i gidr. no.1:216-219 '65.

(MIRA 18:12)

1. Khar'kovskiy politekhnicheskii institut.

ZAV'YALOV, P.V.

Amyloidosis and extensive skin defects in children. Pediatrics  
(MIRA 17:2)  
42 no.3:54-56 Mar'63

1. Iz kafedry detskoy khirurgii ( zav. K.I. Chulovskiy) On-  
kologicheskogo meditsinskogo instituta i kafedry detskoy khirurgii  
Leningradskogo pediatricheskogo meditsinskogo instituta.

ZAV'YALOV, P.V., kand.med.nauk

Prevention of cicatrical contractures following burns in  
children. Vest.khir. no.5:116-117 '62. (MIRA 15:11)

1. Iz kafedry detskoy khirurgii (i.o. zav. - dotsent G.V.  
Chistovich) Leningradskogo pediatricheskogo meditsinskogo  
instituta.

(BURNS AND SCALDS)

(CONTRACTURE)

ZAV'YALOV, P.V., kand.med.nauk

Granulating wounds and their treatment by Piasecki's method.  
(MIRA 15:5)  
Khirurgiya no.8:79-82 Ag '61.

1. Iz kafedry detskoy khirurgii (i. o. zav. - dotsent G.V.  
Chistovich) Leningradskogo pediatricheskogo meditsinskogo  
instituta.

(SKIN GRAFTING)



ZAV'YALOV, P. V., kand. med. nauk; SHELKOV, Ye. I.

Goiter of the root of the tongue. Vest. otorin. no.3:76-78 '61.  
(MIRA 14:12)

1. Iz Otorinolaringologicheskogo stomatologicheskogo otdeleniya (zav.  
Ye. I. Shelkov) Barnaul'skoy gorodskoy bol'nitsy.

(TONGUE—DISEASES) (GOITER)

ZAV'YALOV, P.V.

Free skin transplantation to granulating wounds of supporting  
surfaces in children. Ortop., travm. i protez. 21 no. 11:73-75  
'60. (MIRA 14:4)

(SKIN GRAFTING)

(FOOT—SURGERY)

ZAV'YALOV, P.V., kand.med.nauk

Cytological and bacteriological study of granulating wounds. Sov.  
med. 25 no.10:49-53 0 '61. (MIRA 15:1)

1. Iz kafedry detskoy khirurgii (ispolnyayushchiy obyazannosti  
zaveduyushchego - dotsent G.V.Chistovich) Leningradskogo pediatriche-  
skogo meditsinskogo instituta (dir. - prof. N.T.Shutova).  
(WOUNDS)

ZAV'YALOV, P.V., kand.med.nauk

History of dermatoplasty in Russia. Sov.med. 25 no.12:140-141 D '61.  
(MIRA 15:2)

1. Iz kafedry detskoy khirurgii (ispolnyayushchiy obyazannosti  
zaveduyushchego - dotsent G.V.Chistovich) Leningradskogo podiatricheskogo  
meditsinskogo instituta (dir. - prof. N.T.Shutova).  
(SKIN\_\_TRANSPLANTATION)

ZAV'YALOV, P. V., Cand Med Sci -- (diss) "Plastic surgery of  
granulating wounds in children according to the P. Ya. Pyasetskiy  
method." Len, 1958. 23 pp with ill's (Len Pediatric <sup>Med</sup> Inst), 200  
copies (KL, 35-58, 110)

2 14 10 V  
ZAV'YALOV, P.V., aspirant [Leningrad, Borodinskaya ul. d.1, kv.56)

P.IA.Plasetskii's skin grafting technic. Vest.khir. 79 no.12:120  
D '57. (MIRA 11:1)

1. Iz kafedry detskoy khirurgii (av. - prof. A.V.Shatskiy) Lenin-  
gradskogo pediatricheskogo meditsinskogo instituta.  
(SKIN GRAFTING)

ZAV'YALOV, S.

Radio dispatched taxicabs. Avt.transp. 38 no.8:11  
Ag '60. (MIRA 13:8)

1. Nachal'nik tekhnicheskogo otdela 1-go taksomotornogo  
parka Moskvy.  
(Moscow--Taxicabs--Radio control)

ZAV'YALOV, S.

The history of the Izhora factory. Pod redaktsiei B. P. Poserna, G. S. Zaidelia,  
M. P. Baklaikina. t. 1.- Moskva, Gos. Izdat. Istorii zavodov, 1934- (Istorii zavodov,  
kn 1 ) At head of title: S. Zav'ialov.



ZAV'YALOV, S., inzh.

Immediate problems in automotive transportation.      Avt. transp.  
38 no. 5:25-26 My '60.      (MIRA 14:2)  
    (Motor vehicles—Maintenance and repair)

ZAV'YALOV, S., inzh.

Achieved by innovators. Avt.transp. 40 no.1:49-50 Ja '62.

(MIRA 15:1)

(Taxicabs--Maintenance and repair)

ZAV'YALOV, S., inzh.

Constant attention to inventors and innovators. Avt.transp. 41  
no.11:4-6 N '63. (MIRA 16:12)

ZAV'YALOV, S.

Radiocontrolled "Volga." Prof.-tekh. obr. 18 no.7:32 JI '61.  
(MIRA 14:7)

(Automobiles--Radio control)

ZAV'YALOV, S.

Schools of Estonia report. Prof.-tekh. obr. 18 no.10:22-23 0 '61.

(MIRA 14:11)

(Estonia--Vocational education)

(Socialist competition)

BORSKIY, B., inzh; ZAV'YALOV, S., inzh.

Conveyor with an automatic control drive. Avt.transp. 41 no.1:  
18-20 Ja '63. (MIRA 16:2)

(Conveying machinery)

ZAV'YALOV, S.

27-6-15/29

AUTHOR: Zav'yalov, S., Chief of Educational-Methodical Section, Labor Reserve Administration of Estonia

TITLE: Instructors' Conference (Pouchitel'naya Konferentsiya)

PERIODICAL: Professional'no - Tekhnicheskoye Obrazovaniye, 1957, Nr. 6(145) p 21 (USSR)

ABSTRACT: To promote the instruction of new technics, the Pedagogical Collective of the Yarva-Yanin School of Agricultural Mechanization Nr. 6 works in close contact with the respective enterprises and the Scientific Auto mobile and Tractor Research Institute (NATI - Nauchno-issledovatel'ski avtotraktorski institut) which supplies instruction material. For this same purpose a conference is held after each training period. The article describes such a conference devoted to the study of tractors "DT-14" and "DT-24" built by the Tractor Works at Vladimir and Kharkov. P.M. Teptev, in charge of the engine section of the designing office of the Vladimir Tractor Works, one of the designers of Diesel engine "D-24" and K.Ya. Kikas informed the conference of designs for new tractors. The conference was attended by V.A. Merits in charge of the Chair of Mechanization of the Estonian

Card 1/2

Instructors' Conference

27-6-15/29

Agricultural Academy and A. V. Smirnov, Chief of the Mechanization Administration of Ministry of Agriculture, Estonian SSR.

AVAILABLE: Library of Congress

Card 2/2



ZAV'YALOV, S. A.

School Excursions

Excursion to an agricultural mechanization school. Est. v shkole No. 2, 1953.

Monthly List of Russian Accessions, Library of Congress  
June 1953. UNCL.

KAHAREYKH, K.V.; ZAV'YALOV, S.A. (Sochi)

Experience in the treatment of lumbosacral radiculitis with  
Matsota hydrogen sulfide baths of high concentration. Vop.  
kur., fizioter. i loch. fiz. kul't 30 no.5:441-444 S-O '65.  
(MIRA 18:12)

ЗАВ'ЯТОВ. С.С.

Determining the quantity of drilling fluid depending on the  
r.p.m. of the motor and its structural features. Neft.  
khoz. 43 no. 345-17 1965. (MIRA 1816)

ZAV'YALOV, S.

Together with the Communist Youth League. Prof.-tekh. obr. 21  
no.9:10 S '64. (MIRA 17:11)

ZAV'YALOV, S.

Motortruck for the transportation of radioactive substances.

Avt. transp. 43 no.4:43-44 Ap '65.

(MIRA 18:5)

BESPALOV, P., inzh.; ZAV'YALOV, S., inzh.; NOVIKOV, Ye., inzh.; TELESHEV, A.,  
inzh.

Equipment for washing and drying motorbuses and motortrucks.

Aut. transp. 41.01.01-12 12.12.11.

MDA 1.1.

**Pilocarpine alkaloids.** XXI. New synthesis of pilocarpine. N. A. Dryumova, S. I. Zay'tsova, and N. A. Premislo. Zhur. Obshch. Khim. (J. Gen. Chem.) 18, 1743-6 (1944); cf. CA 42, 2367; -BuONa (from 18g. Na) in EtOH, also, EtOH is treated at ~10° with stirring with 6S in EtOH, also, EtOH is treated at ~10°, filtered, and distd., giving C<sub>10</sub>H<sub>15</sub>NCl<sub>2</sub>, b.p. stand 12 hrs., filtered, and distd., giving 10 g. of ethylcarbamate, bp 104°. This with POCAR in the presence of Na gave 21% of pyzethion per cent rate, 100 g., n<sub>D</sub> 1.4310, d<sub>4</sub> 1.0421. To 0.5 g. of this ester, 100 g., n<sub>D</sub> 1.4310, d<sub>4</sub> 1.0421. To 0.5 g. of this ester, 0.8 g. Na, and 80 ml. EtOAc at -15° was slowly added 3 g.

CO<sub>2</sub>O.CH<sub>2</sub>.CH:CH (prepd. according to Glattfeld, *et al.*, C.A. 29, 4850) in 20 ml. Et<sub>2</sub>O, the mist. slightly acidified by HCl with ice cooling after 20 hrs., the org. layer combined with the Et<sub>2</sub>O ext. of the aq. layer, giving soln. washed with NaHCO<sub>3</sub>, dried, and distilled, giving *n*<sub>D</sub><sup>20</sup> 1.4980, *d*<sub>4</sub><sup>20</sup> 1.2171.

**12.**  $n$ -ethoxyethylhomopolystyrene,  $M_n = 1.49 \times 10^4$ ,  $d_4^{20} = 1.2171$ ;  $CH_3CH_2O.CO.CH_2$ , by IR, 4°, n<sub>D</sub> 1.4900,  $d_4^{20}$  1.2171; the yield rises to 34.7% if the reaction is done in Me<sub>2</sub>CO for 20 hrs. The ester (2 g.) in 50 ml. 1:3 HCl reduced 15 hrs. and concd. in vacuo gave 60% ethoxymethyl homopolystyrene, which (3 g.) heated 2 hrs. to 100° with 15 ml. 10% HBr in AcOH, followed by evapn. in

with 15 ml. 10% HBr in AcOH, 10 min. at 100°C. The product,  $\alpha$ -CH<sub>3</sub>COCH<sub>2</sub>CH<sub>2</sub>CH<sub>2</sub>CO<sub>2</sub>CH<sub>3</sub>, b. 180–4°. With K phthalimide it gave the phthalimide deriv. identical with that described by Polyakova, *et al.* (C A, 34, 10550). G. M. Kosolapoff

ZAV'YALOV, S. I.

USSR/Chemistry - Synthesis  
Chemistry - Alkaloids

Sep 48

"Pilocarpine Alkaloids: XXI, New Synthesis of Alkaloid Pilocarpine," N. A. Dryamova, S. I. Zav'yalov, N. A. Preobrazhenskiy, Moscow Inst Fine Chem Tech imeni M. V. Lomonosov, 2 3/4 pp

"Zhur Obshch Khimii" Vol XVIII, No 9

Describes new synthesis of phthalimidomethyl-homopilosinyketone, starting with  $\alpha$ ,  $\beta$ -butenolide and  $\gamma$ -ethoxyacetone. Other Submitted 7 Jun 47.

30/49T12



ZAV'YALOV, S. I.

Cand Chem Sci

Dissertation: "Derivatives of Crotonic Acid in Syntheses of Gamma-Lactones."  
19/6/50

Moscow Inst of Fine Chemical Technology imeni N. V. Lomonosov

SO Vecheryaya Moskva  
Sum 71

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USSR/Chemistry - Alkaloids

Jan 52

"The Configuration of Pilocarpine," C. I. Zavyaylov, Inst Org Chem, Acad Sci USSR

"Dok Ak Nauk SSSR" Vol LXXII, No 2, pp 257-260

While a complete synthesis of pilocarpine had been carried out in 1936 by N. A. Preobrazhenskiy et al., the stereochem configuration was not clarified. Addn of HBr to pilopie acid and its stereoisomer gave the alpha and beta disubstituted succinic acids. Comparison of properties with known alpha beta disubstituted succinic acids indicates that the bromoacid derived from pilopie acid belongs to the cis-  
202128

USSR/Chemistry - Alkaloids (Contd)

Jan 52

group, while the bromoacid obtained from isopilocarpic acid belongs to the trans-group. The facility of the change of pilocarpine into its diastereoisomer attests to its cis-structure. Homoisopilocarpic acid can be changed into homopilocarpic acid according to a procedure shown, which forms subject of a 1948 USSR author's certificate. Thus, it is established that pilocarpine has the cis-configuration and its diastereoisomer had the trans-configuration.

ZAVYAYLOV, C. I.

202128

SAVINYAHOV, S. I., NAZAROV, I. N.

Condensation Products (Chemistry)

Acetylene derivatives. No. 127. Synthesis of polycyclic compounds related to steroids. Structure of products of condensation of 2-methoxydivinyl with 1-methyl-cyclohexene-6-one and methyl methacrylate. Part 15. Izv. AN SSSR, Otd. khim. nauk no. 4, July-Aug. 1952.

Monthly List of Russian Accessions, Library of Congress, December 1952. Unclassified.

ZAV'YALOV, S. I.

USSR/Chemistry - Steroids

May/June 52

"Synthesis of Polycyclic Compounds Related to Steroids, XIII. The Reaction of Carbocyclic Ketones With 1-Acetylcyclohexene," I. N. Nazarov, S. I. Zav'yalov, Inst of Org Chem, Acad Sci USSR

"Iz Ak Nauk, Otdel Khim Nauk" No 3, pp 437-441

$\alpha$ -Decalone, 9-methyl-1-octanol, and 3, 8-dimethyltetrahydrocyano-1-one were condensed with 1-acetylcyclohexene. Polycyclic diketones were obtained, which were not subjected to further intramolecular crotonic condensation.

220T7

MAZAROV, I.N.; ZAY'YALOV, S.I.

Acetylene derivatives. CXXVII. Synthesis of polycyclic compounds related to steroids. 15. Structure of products of condensation of 2-methoxy-1,3-butadiene with 2-methyl-2-cyclohexen-1-one and methyl methacrylate. Izvest. Akad. Nauk S.S.S.R., Otdel Khim. Nauk '52, 703-9. (MLRA 5:9)  
(CA 47 no.20:10515 '53)

"APPROVED FOR RELEASE: 03/15/2001

CIA-RDP86-00513R001964020003-6

USSR / Chemistry - Synthesis

APPROVED FOR RELEASE: 03/15/2001

CIA-RDP86-00513R001964020003-6"

"APPROVED FOR RELEASE: 03/15/2001

CIA-RDP86-00513R001964020003-6

USSR/Chemistry - Reaction products

APPROVED FOR RELEASE: 03/15/2001

CIA-RDP86-00513R001964020003-6"

**"APPROVED FOR RELEASE: 03/15/2001**

**CIA-RDP86-00513R001964020003-6**

**APPROVED FOR RELEASE: 03/15/2001**

**CIA-RDP86-00513R001964020003-6"**



**"APPROVED FOR RELEASE: 03/15/2001**

**CIA-RDP86-00513R001964020003-6**

**APPROVED FOR RELEASE: 03/15/2001**

**CIA-RDP86-00513R001964020003-6"**

ZAVIYALOV, S. I.

Chemical Abst.  
Vol. 48 No. 9  
May 10, 1954  
Organic Chemistry

- 11  
y Chem  
Synthesis of polycyclic compounds related to steroids.  
XI Stereochemistry of cyclic compounds. I. Condensation of bicyclic with citraconic and mesaconic acid and their esters. Cis-trans isomerism of 1-methylcyclohexane-1,2-dicarboxylic acids and their esters. I. N. Nazarov and V. P. Kucheryov. *Bull. Acad. Sci. U.S.S.R., Div. Chem. Sci.* 1952, 301-7 (Engl. translation).—See C.A. 47, 5363c.  
XII. Condensation of cyclic  $\beta$ -diketones with vinyl ketones and the transformation of the products. I. N. Nazarov and S. I. Zavyalov. *Ibid.* 309-18.—See C.A. 47, 5364b.

H. L. H. *ML*

Lat. YALCO, U. S. 2.

Chem

Chemical Abst.  
Vol. 48 No. 9  
May 10, 1954  
Organic Chemistry

Acetylene derivatives. CXXVI. Synthesis of polycyclic compounds related to steroids. 14. Synthesis of tetracyclic ketones with a methylocyclopentane B ring. I. N. Nazarov, V. P. Kucheryov, and L. N. Gerekhova. *Bull. Acad. Sci. U.S.S.R., Div. Chem. Sci.* 1952, 427-35 (Engl. translation).—See C.A. 47, 5306c. CXXVII. Synthesis of polycyclic compounds related to steroids. 15. Structure of products of condensation of 2-methoxy-1,3-butadiene with 2-methyl-2-cyclohexen-1-one and methyl methacrylate. I. N. Nazarov and S. I. Zakhvalov. *Ibid.* 643-7. See C.A. 47, 10315d. CXXVIII. Heterocyclic compounds. 2. Action of primary aromatic imides and 2-aminopyridine on vinyl allyl ketones. Synthesis of aryl substituted 4-piperidones and 1-(2-pyridyl)-4-piperidones. I. N. Nazarov, S. G. Matkovskiy, and V. A. Rudenko. *Ibid.* 923-32. See C.A. 48, 1357d. CXXIX. Heterocyclic compounds. 24. Transformations of 1-phenyl-2,5-dimethyl-4-piperidone. *Ibid.* 933-7.—See C.A. 48, 1358e. H. L. H.

**"APPROVED FOR RELEASE: 03/15/2001**

**CIA-RDP86-00513R001964020003-6**

**APPROVED FOR RELEASE: 03/15/2001**

**CIA-RDP86-00513R001964020003-6"**

ZAV'YALOV, S. I.

USSR/Organic Chemistry - Theoretical and General Questions on Organic Chemistry,  
E-1

Abst Journal: Referat Zhur - Khimiya, No 19, 1956, 61402

Author: Nazarov, I. N., Zav'yalov, S. I., Burmistrova, M. S.

Institution: None

Title: On the Influence of Enolization on the Capability of  $\beta$ -Dicarbonyl  
Compounds of Undergoing Michael's Reaction and C-Alkylation

Original

Periodical: Izv. AN SSSR, otd. khim. n., 1956, No 2, 205-212

Abstract: For the purpose of studying the dual reactivity of  $\beta$ -diketones  
in reactions of nucleophilic substitution an investigation was  
made of the reactions of alkylation and Michael condensation of  
some cyclic  $\beta$ -diketones. On boiling (3 hours) potassium deriva-  
tive of 2-methyldihydroresorcinol (I) (from 0.6 g potassium and  
2 g 2-methyl dihydroresorcinol ~~III~~) with 1-bromacetyl cyclohexanol-1  
(3 g) in  $\text{CH}_2\text{OH}$  (15 ml) was produced the enolic ester  $\text{CH}_2(\text{CH}_2)_2\text{COC} -$   
 $(\text{CH}_2)_2 - \text{COC}(\text{CH}_2)_2\text{C}(\text{OH})(\text{CH}_2)_2\text{CH}_2$  (III) yield 40%, MP  $135^\circ - 136^\circ$  (from

APPROVED FOR RELEASE: 03/15/2001

CIA-RDP86-00513R001964020003-6"

USSR/Organic Chemistry - Theoretical and General Questions on Organic Chemistry,  
E-1

Abst Journal: Referat Zhur - Khimiya, No 19, 1956, 61402

Abstract: aqueous  $\text{CH}_3\text{OH}$ ). Under the same conditions I and v-bromacetophenone yielded C-derivative  $\text{CO}(\text{CH}_3)_2\text{COC}(\text{CH}_3) - \text{CH}_2\text{COC}_6\text{H}_5$  (IV) yield 44%, MP  $125^\circ - 126^\circ$  (from  $\text{CH}_3\text{OH}$ ). On shaking with 2%  $\text{HCl}$  in the cold III is quantitatively hydrolyzed to II; under same conditions IV remains unchanged. On heating with aqueous  $\text{KOH}$  IV yields keto acid  $\text{CH}_3\text{CHCH}_2\text{C}(\text{C}_6\text{H}_5) = \text{C}(\text{CH}_2\text{CH}_2\text{COOH})\text{C} = \text{O}$  yield 80%, MP  $94^\circ - 95^\circ$  (from water); 2,4-dinitrophenylhydrazone, MP  $131^\circ - 132^\circ$  (from  $\text{CH}_3\text{OH}$ ). On boiling 3 hours with  $\text{CH}_3\text{I}$  in  $\text{CH}_3\text{OH}$  tetronic acid which is almost entirely enolic is not methylated while the little enolized 2-methylindandione-1,3 (V) under the same conditions yields the C-methylated derivative with a yield of 70%. In contrast with dihydroresorcinol (VI) V is readily C-methylated in dry dioxane. V reacts more readily in condensation with acrylonitrile than derivatives of VI and  $\alpha$ -alkyltetronic acids. In aqueous dioxane in presence of alkali cyclohexanone-2-carboxylic ester (VII) is less readily cyanoethylated than the slightly enolized cyclopentanone-2-carboxylic ester (VIII). The noted instances of lower nucleophilic reactivity in the series of keto-enolic compounds are

Card 2/3

NAZAROV, I.N.; ZAV'YALOV, S.I.

Synthesis of steroids and of substances related to them. Part 37.  
Synthesis of steroid analogs lacking ring B. Izv.AN SSSR.Otd.khim.  
nauk no.5:569-574 My '56. (MIRA 9:9)

1.Institut organicheskoy khimii imeni N.D.Zelinskogo Akademii nauk  
SSSR. (Steroids)

HAZAROV, I.N.; ZAV'YALOV, S.I.; BURMISTROVA, M.S.; GURVICH, I.A.;  
SEMONINA, L.I.

Synthesis of steroid compounds and related substances. Part 34.  
9-methyl-1,6-diketo- $\Delta^5$ -octahydronaphthalene. Zhur.ob.khim. 26  
no.2:441-444 F '56. (MLBA 9:8)

1. Institut organicheskoy khimii Akademii nauk SSSR.  
(Naphthalene)



ZAV'YALOV, S.I.

HAZAROV, I.H.; ZAV'YALOV, S.I.

Synthesis of steroid compounds and related substances. Report No.39.  
Steroid analogs lacking ring B. Izv.AN SSSR. Otd.khim.nauk no.2:207-  
211 F '57. (MIRA 10:4)

1. Institut organicheskoy khimii im. N.D. Zelinskogo Akademii  
nauk SSSR.

(Steroids)

ZAV'YALOV, S.I.

NAZAROV, I.H.; ZAV'YALOV, S.I.

Interaction of magnesium-organic compounds with 2-bromodihydro-  
resorcinol. Izv. AN SSSR. Otd. khim. nauk, no.2:200-203 F '58.

(MIRA 11:4)

1. Institut organicheskoy khimii im. N.D. Zelinskogo AN SSSR.  
(Resorcinol) (Grignard reagents)

AUTHORS:

*Zav'yalov, S. I.*  
Nazarov, I. M., Zav'yalov, S. I.

62-2-11/28

TITLE:

The Interaction of Organomagnesium Compounds With 2-Bromodihydroresorcin (Vzaimodeystviye magniyorganicheskikh soyedineniy s 2-bromidgidrorezortsinom).

PERIODICAL:

Izvestiya AN SSSR Otdeleniya Khimicheskikh Nauk, 1958, Nr 2, pp. 200-203 (USSR).

ABSTRACT:

It is well-known that in the bromination of dihydroresorcin in a chloroform solution a dibromo-derivative (references 1,2,3) forms which splits off the molecule of the bromine hydrogen after short boiling with water, on which occasion it is converted to 2-bromodihydroresorcin (reference 4). It was found that the bromination of dihydroresorcin can also take place in an aqueous solvent with a 50% yield. The halide atom of 2-bromodihydroresorcin differs from other  $\alpha$ -bromine ketones by its low mobility and nucleophile reactions. Data exist in publications that dihydroresorcin enters into reactions according to Grignard (Grinyar) with a simultaneous formation of a mixture of unsaturated ketones and dienes. See scheme. It became evident that in contrast to dihydroresorcin 2-bromodihydroresorcin reacts highly selectively with

Card 1/3

The Interaction of Organomagnesium Compounds With 2-Bromo-  
dihydroresorcin.

62-2-11/28

organomagnesium compounds. Under the influence of magnesium-methyl-iodide or magnesium-methyl-bromide at first magnesium-enolates develop which form dimagnesium derivatives with the excess of the Grignard reagent. Nondistilled bromine ketones form the characteristic light-red 2,4-dinitrophenylhydrazones. By distillation in vacuum (20-30 mm) bromine ketones lose bromine-hydrogen and are converted to meta-derivatives of phenols. A partial splitting off of bromine-hydrogen can even be observed in the distillation of the bromine ketones (in vacuum 2 mm) at a temperature of 130-140° C. In an analytically pure state the authors only obtained 2-ethyl-1-bromo- $\Delta$ -cyclohexenone-6 (see formulae p. 206). It is important that the halogen-atoms of the bromine ketones of 2-bromodihydroresorcin have chemical properties which are distinctly to be distinguished. On a treatment of bromocyclohexenones (references 10 and 11) by means of diluted alkali cyclic  $\alpha$ -diketones form (references 16 and 17). There are 6 references.

ASSOCIATION: Institute for Organic Chemistry AN USSR imeni N.D. Zelinskiy  
(Institut organicheskoy khimii imeni N.D. Zelinskogo Akademii  
nauk SSSR).

Card 2/3

The Interaction of Organomagnesium Compounds With 2-Bromo-  
dihydroresorcin.

62-2-11/28

SUBMITTED: September 12, 1956

AVAILABLE: Library of Congress

1. Organomagnesium compounds-Chemical reactions
2. Dihydroresorcin-Bromination
3. 2-Bromodihydroresorcin-Chemical reactions

Card 3/3

AUTHORS: Nazarov, I. N., Zav'yalov, S. I. SOV/62-58-10-12/25

TITLE: Synthesis of Steroid Compounds and of Substances Related to Them (Sintez steroidnykh soyedineniy i rodstvennykh im veshchestv) Communication 40: Synthesis of Steroid Analogs Containing N: B or C Nucleus (Soobshcheniye 40: Sintez steroidnykh analogov, ne sodержashchikh kol'tsa B ili C)

PERIODICAL: Izvestiya Akademii nauk SSSR. Otdeleniye khimicheskikh nauk, 1958, Nr 10, pp 1233 - 1238 (USSR)

ABSTRACT: In earlier papers the authors described the synthesis of a number of aromatic compounds which according to their structure are related to estrone and the doisinol acid. Continuing this work the authors describe in the present paper the synthesis of some similar model steroids containing no B and C nuclei and therefore belong to the naphthalene and biphenyl derivatives. After the interaction of 2-magnesium-bromo-6-methoxy naphthalene with the methyl ether of dihydro resorcin an unsaturated bicyclic ketone was obtained in a yield of 7%, from which a model analogue of the homoequilenin is obtained. The reaction of p-magnesium bromanisole

Card 1/3

Synthesis of Steroid Compounds and of Substances  
Related to Them. Communication 40: Synthesis of Steroid Analogs Con-  
taining No B or C Nucleus

SOV/62-58-10-12/25

with the methyl ether of dihydro resorcin lead to the formation of 2-(p-methoxy phenyl)- $\Delta^1$ -cyclo hexene-6-on in a yield of 40%. The 6-(p-oxy-o-methyl phenyl)-tetralon-1 was obtained by the dimethylation of 6(p-methoxy-o-methyl phenyl)-tetralon-1 by aluminum chloride in boiling xylol. On its boiling with acetic anhydride its conversion from 6-(p-oxy-phenyl)-tetralon-1 into 6-(p-acetoxy-phenyl)tetralon-1 took place. The corresponding tricyclic ketones which in the cyclization by polyphosphoric acid and a subsequent dehydration with palladium on carbon yield 1-methoxychrysene and 1,8-dimethoxy chrysene, were obtained by the action of the potassium derivative of 5-methoxy tetralon-2 on 2-phenyl-1-bromo ethane and 2-(m-methoxy phenyl)-1-bromo ethane. There are 14 references, 4 of which are Soviet.

Card 2/3

Synthesis of Steroid Compounds and of Substances  
Related to Them. Communication 40: Synthesis of Steroid Analogs Con-  
taining No B or C Nucleus SOV/62-58-10-12/25

ASSOCIATION: Institut organicheskoy khimii im. N.D.Zelinskogo Akademii  
nauk SSSR (Institute of Organic Chemistry imeni N.D.  
Zelinskiy AS USSR)

SUBMITTED: February 28, 1957

Card 3/3



5(3)

SOV/62-59-2-31/40

AUTHORS:

Gunar, V. I., Zav'yalov, S. I., Krotov, A. I.

TITLE:

Synthesis and Anthelmintic Effect of Dehydroresorcinol Derivatives With Branched Aliphatic Chains (Sintez i antigel'mintnoye deystviye proizvodnykh digidrorezortsina, soderzhashchikh razvetvlennyye alifaticheskiye tsepi)

PERIODICAL:

Izvestiya Akademii nauk SSSR, Otdeleniye khimicheskikh nauk, 1959, Nr 2, p 358 (USSR)

ABSTRACT:

The authors found that dehydroresorcinol can be alkylated with branched allyl bromides described in reference 1 in an ~ 50% yield. In this way the following compounds were synthesized:

2-(3',7'-dimethyl- $\Delta^{2'}$ -octenyl)-dehydroresorcinol, 2-(3',7'-dimethyl- $\Delta^{2',6'}$ -octadienyl)-dehydroresorcinol and 2-(3',7',11'-trimethyl- $\Delta^{2'}$ -dodecylenyl)-dehydroresorcinol. On boiling with acetic anhydride these ketones yielded corresponding enol acetates in large yield. All compounds are anthelmintics. The

Card 1/2

2-(3',7',11'-trimethyl- $\Delta^{2'}$ -dodecylenyl)-dehydroresorcinol proved to be the most active compound. There is 1 Soviet ref-

SOV/62-59-2-31/40

Synthesis and Anthelmintic Effect of Dehydroresorcinol Derivatives with  
Branched Aliphatic Chains

erence.

ASSOCIATION: Institut organicheskoy khimii im. N. D. Zelinskogo Akademii  
nauk SSSR (Institute of Organic Chemistry imeni N. D. Zolinskiy  
of the Academy of Sciences, USSR) Institut malyarii,  
meditsinskoy parazitologii i gel'mintologii Minzdrava SSSR  
(Institute for Malaria, Medical Parasitology and Helminthology  
of the Ministry of Public Health, USSR)

SUBMITTED: July 10, 1958

Card 2/2

5(3)

SOV/62-59-4-16/42

AUTHORS:

Nazarov, I. N., Zav'yalov, S. I.

TITLE:

Chemistry of Dihydroresorcinol (Khimiya digidrorazortsina).  
Communication 1. Bromine Derivatives of Dihydroresorcinol and  
Their Transformations (Soobshcheniye 1. Bromproizvodnyye  
digidrorazortsina i ikh prevrashcheniya)

PERIODICAL:

Izvestiya Akademii nauk SSSR. Otdeleniye khimicheskikh nauk,  
1959, Nr 4, pp 668-672 (USSR)

ABSTRACT:

The authors have found that dihydroresorcinol can be brominated more conveniently in water, to give 2-bromodihydroresorcinol in a total yield of 60% without liberation of the dibromide (II). The interaction of 2-bromodihydroresorcinol with free bromine or N-bromosuccinimide forms directly 2,2-dibromodihydroresorcinol (VI) in a high yield. When heated to 90-100° in the presence of hydrogen bromide, 2,2-dibromodihydroresorcinol decomposes very violently to liberate hydrogen bromide and form a mixture of resorcinol bromine derivatives (X) and (VII). The pure dibromide (VI) obtained by the bromination of 2-bromodihydroresorcinol with N-bromosuccinimide is much stabler and decomposes only under more severe conditions. The bromination of

Card 1/2

SOV/62-59-4-16/42

## Chemistry of Dihydroresorcinol. Communication 1. Bromine Derivatives of Dihydroresorcinol and Their Transformations

this mixture in water gave 2,4,6-tribromoresorcinol (XI). The reaction of the monomethyl ester of dihydroresorcinol (VIII) with N-bromosuccinimide in carbon tetrachloride forms methoxy bromide (IX), which is identical with the methylation product of 2-bromodihydroresorcinol (III). Methoxybromide (IX) is extremely sensitive to the action of various hydrolyzing agents and saponifies easily under the action not only of acid but also of alkaline aqueous solutions. Bromomethoxyketone (IX) has a fairly good thermal stability and can be distilled under a vacuum at 170-180° without substantial decomposition. It reacts very energetically in the presence of methanol to form the monomethyl ester of resorcinol (XII). There are 8 references, 1 of which is Soviet.

ASSOCIATION: Institut organicheskoy khimii im. N. D. Zelinskogo Akademii nauk SSSR (Institute of Organic Chemistry imeni N. D. Zelinskiy of the Academy of Sciences, USSR)

SUBMITTED: July 17, 1957  
Card 2/2

5.3610

77075

30V/62-59-12-19/43

AUTHORS: Zav'yalov, S. I., Medvedeva, V. M.

TITLE: Chemistry of Dihydroresorcinol. Communication 2.  
Nitrosation of Dihydroresorcinol and Its Derivatives

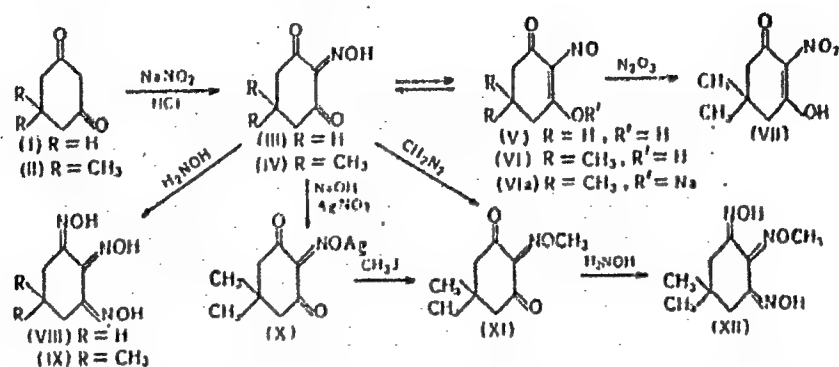
PERIODICAL: Izvestiya Akademii nauk SSSR, Otdeleniye khimicheskikh  
nauk, 1959, Nr 12, pp 2165-2170 (USSR)

ABSTRACT: UV spectra of nitrosation products of dimedon,  
dihydroresorcinol and acetylacetone in neutral, acid  
and alkaline alcoholic solutions, as well as UV  
spectra of trioximes (VIII and IX), methyl ester of  
dimethylviolanic acid (XI) and its dioxime (XII) were  
studied.

Card 1/5

Chemistry of Dihydroresorcinol.  
Communication 2. Nitrosation of  
Dihydroresorcinol and Its Derivatives

77075  
SOV/62-59-12-19/43

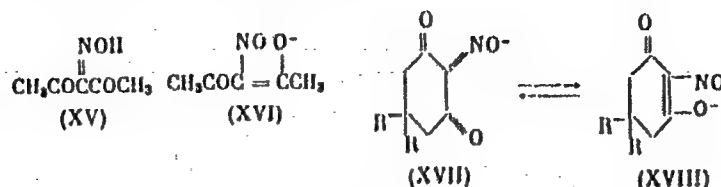


It was shown that nitrosation products of dihydroresorcinol, dimedon, and acetylacetone exist in the oxime form (III, IV, XV), but that the sodium derivative of latter has an ionic nitroso (XVI) structure.

Card 2/5

Chemistry of Dihydroresorcinol.  
Communication 2. Nitrosation of  
Dihydroresorcinol and Its Derivatives

77075  
SOV/62-59-12-19/43

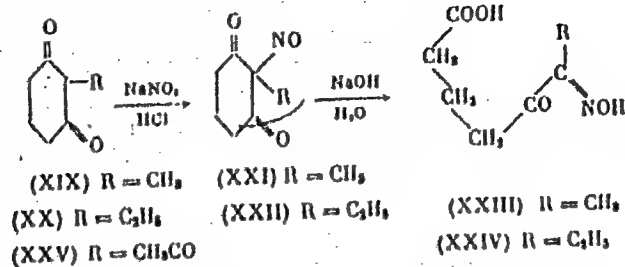


2'-Alkyl-2-nitrosodihydroresorcinols (XXI, in 31% yield, mp 161-162° and XXII in 69% yield, mp 147-148 dec.) are obtained by nitrosation of 2-alkyl derivatives of dihydroresorcinol (XIX and XX). Dilute alkali converts (XXI) and (XXII) into  $\epsilon$ -alkyl- $\epsilon$ -hydroxyimino- $\delta$ -ketocaproic acid (XXIV) in 30% yield, mp 108-109°.

Card 3/5

Chemistry of Dihydroresorcinol.  
Communication 2. Nitrosation of  
Dihydroresorcinol and Its Derivatives

77075  
SOV/62-59-12-19/43



Yu. P. Egorov took part in this work. There are 3 figures; and 14 references, 3 Soviet, 3 U.S., 2 U.K., 5 German, 1 Japanese. The 5 U.S. and U.K. references are: S. Takaki, Y. Nagase, J. Pharm. Soc. Japan. 58, 430 (1938) - Chem. Abstrs. 32, 6633 (1938); P. Haas, J. Chem. Soc. 91, 1437 (1907); E. C. C. Baly, E. G. Marsden, A. W. Stewart, J. Chem. Soc. 89, 970 (1906); V. Richter, Organic chemistry, v. I, 1944, ctp. 406; W. R. Dunstan, E. Goulding, J. Chem. Soc. 79, 630 (1901).

Card 4/5



Chemistry of Dihydroresorcinol.  
Communication 2. Nitrosation of  
Dihydroresorcinol and Its Derivatives

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SOV/62-59-12-19/43

ASSOCIATION: Zelinskiy Institute of Organic Chemistry, Academy of  
Sciences, USSR (Institut organicheskoy khimii imeni  
N. D. Zelinskogo Akademii nauk SSSR)

SUBMITTED: March 31, 1958

Card 5/5

5.3900

77073  
SOV/62-59-12-17/43

AUTHORS: Nazarov, I. N., Zav'yalov, S. I.

TITLE: Synthesis of Steroids and Related Compounds.  
Communication 48. Synthesis of Trans-6-(p-Hydroxy-phenyl)-1-Decalone

PERIODICAL: Izvestiya Akademii nauk SSSR. Otdeleniye khimicheskikh nauk, 1959, Nr 12, pp 2156-2160 (USSR)

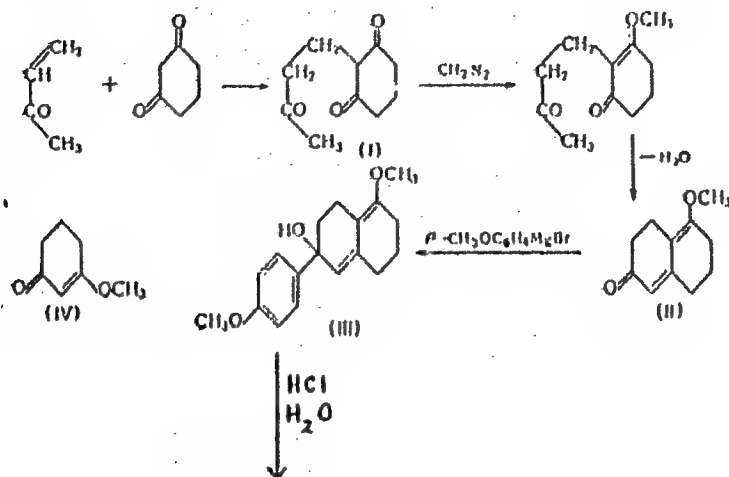
ABSTRACT: The Michael condensation of dihydroresorcinol with methyl vinyl ketone forms triketone (I), which is converted into the bicyclic methoxyketone (II) by treatment with diazomethane and subsequent cyclization. Bromomagnesiumanisole reacts with (II) forming tricyclic ketoalcohol (III) which is hydrolyzed with HCl, and by dehydration and isomerization is converted into methoxydlenone (VII) (mp 105-106°). Trans-6-(p-hydroxyphenyl)-1-decalone (XIV) was obtained by reduction of (VII). (XIV) has a structure similar to an estrone (XV).

Card 1/5

Synthesis of Steroids and Related Compounds.  
Communication 48. Synthesis of Trans-6-  
-(p-Hydroxyphenyl)-1-Decalone

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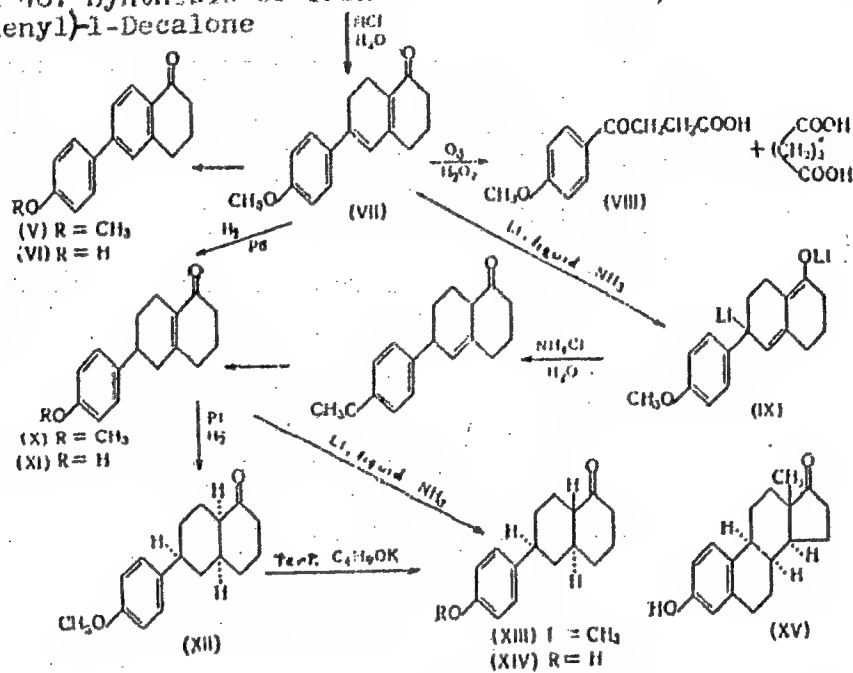
SOV/62-59-12-17/43



Card 2/5

Synthesis of Steroids and Related Compounds.  
Communication 48. Synthesis of Trans-6-  
-(p-Hydroxyphenyl)-1-Decalone

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SOV/62-59-12-17/43



Card 3/5

Synthesis of Steroids and Related Compounds.  
Communication 48. Synthesis of Trans-6-  
-(p-Hydroxyphenyl)-1-Decalone

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SOV/62-59-12-17/43

6-(p-Methoxyphenyl)- $\Delta^{9,10}$ -1-octalone (X) was obtained in 32% yield (mp 69-70°) by hydrogenation of (VII) over Pd/CaCO<sub>3</sub> in methanol (one mole of H<sub>2</sub> is taken up). The same reaction can be carried out with lithium in liquid ammonia. 6-(p-Hydroxyphenyl)- $\Delta^{9,10}$ -1-octalone was prepared in 43% yield (mp 155-156°) by demethylation of (X). Dimethyl sulfate reacts with (XI), in an alkaline medium, forming the starting ketone (X). Hydrogenation of (X) occurs at an appreciable rate only over a Pt catalyst in methanol and in the presence of acetic acid, forming an oily mixture from which cis-decalone (XII) could not be isolated. Trans-6-(p-methoxyphenyl)-1-decalone (XIII) was isolated as a semicarbazone in 18% yield (mp 236-238°) from the above mixture with potassium t-butoxide. (XIII) can be formed from (VII) with uptake of 2 moles of H<sub>2</sub> over Pt catalyst and with subsequent cyclization. Trans-decalone (XIII) can be

Card 4/5

Synthesis of Steroids and Related Compounds.  
Communication 48. Synthesis of Trans-6-  
-(p-Hydroxyphenyl)-1-Decalone

77073  
SOV/62-59-12-17/43

obtained in over 40% yield by reduction of (X) with lithium in liquid ammonia. Trans-6-(p-hydroxyphenyl)-1-decalone (XIV) was obtained in 42% yield (mp 166-167°) by demethylation of (XIII). Dimethyl sulfate reacts with (XIV), forming the starting (XIII). Compounds (XI) (mp 155-156°) and (XIV) (mp 166-167°) are new analogs of estrone, they have low estrogenic activity. I. A. Eskin and M. P. Danilova took part in this work. There are 7 references, 6 Soviet, 1 U.S. The U.S. reference is: L. Fieser, J. Am. Chem. Soc., 58, 2314 (1936).

ASSOCIATION: Zelinskiy Institute of Organic Chemistry, Academy of Sciences, USSR (Institut organicheskoy khimii imeni N. Z. Zelinskogo Akademii nauk SSSR)

SUBMITTED: March 25, 1958

Card 5/5

S/020/60/132/04/26/064  
B011/B003

5.3400

AUTHORS: Gunar, V. I., Zav'yalov, S. I.

TITLE: A New Synthesis of Phytol<sup>1</sup>

PERIODICAL: Doklady Akademii nauk SSSR, 1960, Vol. 132, No. 4,  
pp. 829-831

TEXT: In a previous paper (Ref. 1) the authors showed that the alkylation of dihydroresorcinol with prenyl bromides (II) leads to a series of cyclic  $\beta$ -diketones which contain isoprenoid chains. In the article under review the authors proved that these derivatives of dihydroresorcinol may be used, inter alia, for the synthesis of phytol (XIII). In the hydrolytic cleavage of 2-prenyl- and 2-geranyldihydroresorcinols (III) and (IV) large quantities of corresponding keto acids (V) and (VI) were formed. The latter reacted smoothly with an excess of lithium methyl, with the two functional groups participating. In the dehydration of the keto alcohols (VII) and (VIII) obtained by means of potassium bisulfate and in the subsequent complete hydrogenation

Card 1/2

A New Synthesis of Phytol

S/020/60/132/04/26/064  
B011/B003

of the unsaturated ketones (IX) and (X) on platinum oxide the following known ketones were obtained: tetrahydrogeranylacetone (XI) and hexahydrofarnesylacetone (XII) (Ref. 2). In accordance with Refs. 2 and 3 the ketone (XII) can be easily converted into phytol (XIII). Thus, a new method of synthesizing isoprenoid compounds was elaborated. It permits extension of the chain of vinyl alcohols (I) by eight atoms. Here, large yields of ketones (XI) and (XII) can be obtained. There are 3 references, 2 of which are Soviet. 4

ASSOCIATION: Institut organicheskoy khimii im. N. D. Zelinskogo  
Akademii nauk SSSR (Institute of Organic Chemistry imeni  
N. D. Zelinskiy of the Academy of Sciences, USSR)

PRESENTED: February 12, 1960, by B. A. Kazanskiy, Academician

SUBMITTED: January 19, 1960

Card 2/2



ZAV'YALOV, S.I.; GUMAR, V.I.; VASIL'YEV, A.F.

Direct hydroxylation of 2-substituted dihydroresorcinols. Izv.  
AN SSSR Otd.khim.nauk no.5:938 M<sub>y</sub> '60. (MIRA 13:6)

1. Institut organicheskoy khimii imeni N.D. Zelinskogo Akademii  
nauk SSSR.  
(Resorcinol) (Hydroxylation)

GUNAR, V.I.; ZAV'YALOV, S.I.

Syntheses based on 2-prenyldihydroresorcinol. Izv.AN SSSR Otd.khim.  
nauk no.5:937 My '60. (MIRA 13:6)

1. Institut organicheskoy khimii imeni N.D.Zelinskogo Akademii  
nauk SSSR.

(Resorcinol)

GUMAR, V.I.; ZAV'YALOV, S.I.

New synthesis of phytol. Dokl.AN SSSR 132 no.4:829-831 Je '60.  
(MIRA 13:5)

1. Institut organicheskoy khimii im. N.D.Zelinskogo Akademii nauk  
SSSR. Predstavleno akademikom B.A.Kazanskim.  
(Phytol)

HAZAROV, I.N.; ZAV'YALOV, S.I.

Synthesis of steroid compounds and related substances. Report  
No.49: Synthesis of steroid analogs lacking the B ring. Izv.  
AN SSSR.Otd.khim.nauk no.6:1080-1083 J1 '60.  
(MDRA 13:7)

1. Institut organicheskoy khimii imeni N.D.Zelinskogo Akademii  
nauk SSSR.

(Steroids)

3/26/2009, 12:00 PM

1. Newton, C. A. and Helms, J. P. 1972. Advances in the Biology of the Fishes. Vol. 1. Academic Press, New York.

1. Electrophilic and Radical Substitution of Iodine Chloride  
Mercury Atom in Organomercury Salt. 2. Introduction of  
Dichloro Carbon into the Matrix - Solid Matrix. 3. Kinetic  
Action of 2-Furyl Cycloalkanes With Hydrogen Peroxide

Investiya Akademi nauk SSSR. Gidrofizicheskaya  
nauka, 1963, No. 3, pp. 174-180

1. In the course of their studies of the mechanism of the chlorophyll synthesis in the algae, the authors have observed that the simultaneous addition of the amino acids, glycine and glutamic acid, to the culture medium of the algae, leads to a significant increase in the rate of chlorophyll synthesis. The authors have also observed that the simultaneous addition of the amino acids, glycine and glutamic acid, to the culture medium of the algae, leads to a significant increase in the rate of chlorophyll synthesis. The authors have also observed that the simultaneous addition of the amino acids, glycine and glutamic acid, to the culture medium of the algae, leads to a significant increase in the rate of chlorophyll synthesis.

[illegible]

card 1/8

[illegible]

Case 2/0

found in 1966. Extracted in 5% conc. perchloric chloride from triethyl arsenic perchlorate (yield 11.5-12.5%). Triethyl arsenic perchlorate (solid) was obtained by crystallization from triethyl arsenic perchlorate (yield 11.5-12.5%). The latter compound (melting point 60-61°C) was obtained by crystallization from triethyl arsenic perchlorate (yield 11.5-12.5%). The latter compound (melting point 60-61°C) was obtained by crystallization from triethyl arsenic perchlorate (yield 11.5-12.5%).

Card 3/4

99021710X

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1. May 21, 1960; 2. June 1, 1960; 3. June 13, 1960

**100-151000**

Card 4/4

ZAV'YALOV, S.I.; GUNAR, V.I.; KUDRYAVTSEVA, L.F.

Chemistry of dihydroresorcinol. Report No. 6: New steps in the  
synthesis of phenanthrene derivatives based on dihydroresorcinol.

Izv. AN SSSR. Otd. khim. nauk no. 11: 2009-2013 N '60.

(MIRA 13:11)

1. Institut organicheskoy khimii im. N.D. Zelinskogo AN SSSR.  
(Phenanthrene) (Resorcinol)

GUMAR, V.I.; ZAV'YALOV, S.I.

Chemistry of dihydroresorcinol, Part 8: Syntheses based on  
2-prenyldihydroresorcinol. Zhur. ob. khim. 30 no.11:  
3658-3663 N'60. (MIRA 13:11)

1. Institut organicheskoy khimii Akademii nauk SSSR.  
(Resorcinol)

ZAV'YALOV, S.I.; KONDRAT'YEVA, G.V.

Chemistry of dihydroresorcinol. Report No.5: Chemical properties  
and enol ethers of dihydroresorcinol and its derivatives. Izv.AN  
SSSR Otd.khim.nauk no.8:1429-1434 Ag '60. (MIRA 15:5)

1. Institut organicheskoy khimii im. N.D.Zelinskogo AN SSSR.  
(Resorcinol) (Enols)



VIHOGRADOVA, L.P.; ZAV'YALOV, S.I.

Reaction of 2-formylcyclohexanone with hydrogen peroxide. Zhur.  
ob. khim. 30 no.12:4110 D '60. (MIRA 13:12)

1. Institut organicheskoy khimii Akademii nauk SSSR.  
(Cyclohexanecarboxaldehyde) (Hydrogen peroxide)

BARB'YE, M. [Barbier, M.]; VINOGRADOVA, L.P.; ZAV'YALOV, S.I.

Application of the chromatographic plate method to  $\beta$ -dicarbonyl compounds. Izv. AN SSSR. Otd. khim. nauk no. 1:162-163 Ja '61.  
(MIRA 14:2)

1. Institut fiziko-khimicheskoy biologii, Parizh i Institut organicheskoy khimii im. N.D. Zelinskogo AN SSSR.  
(Carbonyl compounds) (Chromatographic analysis)

VINOGRADOVA, L.P.; ZAV'YALOV, S.I.

$\beta$ -Dicarbonyl compounds. Report No.9: Reaction between  
 $\beta$ -dicarbonyl compounds and hydrogen peroxide. Izv.  
AN SSSR. Otd.khim.nauk no.8:1482-1486 Ag '61.

(MIRA 14:8)

1. Institut organicheskoy khimii im. N.D. Zelinskogo AN SSSR.  
(Carbonyl compounds)  
(Hydrogen peroxide)

ZAV'YALOV, S.I.; VINOGRADOVA, I.P.

$\beta$ -Dicarbonyl compounds. Report No.10: Distinct characteristics in the chemical behavior of aliphatic and cyclic  $\beta$ -dicarbonyl compounds. Izv. AN SSSR. Otd.khim.nauk no.9:1640-1645 9'61. (MIRA 14:9)

1. Institut organicheskoy khimii im. N.D.Zelinskogo AN SSSR.  
(Carbonyl compounds)